# United States Environmental Protection Agency Region 7 901 N. 5th Street Kansas City, KS 66101

Date: SEP 2 5 2009

Subject: Transmittal of Sample Analysis Results for ASR #: 4602

Project ID: BMA71700

Project Description: Herculaneum Pb Smelter site - Removal Support/Recontamination soil

sampling

From: Michael F. Davis, Chief

Chemical Analysis and Response Branch, Environmental Services Division

To:

Bruce Morrison SUPR/FFSE

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

**Enclosures** 

cc: Analytical Data File.

40325845 Superfund **Summary of Project Information** 

09/25/2009

Phone: 913-551-7755 Project Manager: Bruce Morrison Org: SUPR/FFSE

Project ID: BMA71700

ASR Number: 4602

Project Desc: Herculaneum Pb Smelter site - Removal Support/Recontamination soil sampling

Location: Herculaneum State: Missouri Program: Superfund

Site Name: HERCULANEUM LEAD SMELTER SITE - SITE Site ID: A717 Site OU: 00

> **EVALUATION/DISPOSITION** GPRA PRC: 302DC6C

Purpose: Site Cleanup Support

#### Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of Units: Specific units in which results are sample for quality control purpose. reported.

> = Field Sample % = Percent

> > mg/kg = Milligrams per Kilogram

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

### **Sample Information Summary**

09/25/2009

Project ID: BMA71700

**Project Desc:** Herculaneum Pb Smelter site - Removal

Support/Recontamination soil sampling

	QC Code Matr	x Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1	_ Solid	d HER-RS-21 (Q3)	C	7/28/2009	13:00			08/25/2009
· 2	_ Solid	d HER-RS-22 (Q2)	C	7/29/2009	14:00			08/25/2009
3	_ Solid	d HER-RS-23 (Q1)	O	7/29/2009	08:00			08/25/2009
4	_ Solid	d HER-RS-24 (Q1)	O	7/29/2009	08:00			08/25/2009
5	_ Solid	d HER-RS-25 (Q1)	0	7/30/2009	09:00			08/25/2009
6	_ Solid	d HER-RS-26 (Q3)	O	8/12/2009	13:00			08/25/2009
7	_ Solid	d HER-RS-27 (Q4)	O	8/12/2009	15:00			08/25/2009
8	_ Solid	d HER-RS-28 (Q4)	O	8/13/2009	13:00			08/25/2009
9	_ Solid	d HER-RS-29 (Q2)	0	8/14/2009	09:00			08/25/2009
10	_ Solid	d HER-RS-30 (Q1)	O	8/12/2009	09:00			08/25/2009
11	_ Solid	d HER-RS-31 (P.A.)	C	8/07/2009	10:00			08/25/2009
12	_ Solid	d HER-RS-32 (Q4)	O	8/07/2009	10:00			08/25/2009

**ASR Number:** 4602

#### **RLAB Approved Analysis Comments**

09/25/2009

Project ID: BMA71700

**Project Desc** Herculaneum Pb Smelter site - Removal

Support/Recontamination soil sampling

#### **Analysis** Comments About Results For This Analysis

1 Metals in Solids by ICP

**Lab:** Region 7 EPA Laboratory - Kansas City, Ks. **Method:** EPA Region 7 RLAB Method 3122.3C

Basis: Dry

Samples: 1-\_\_ 2-\_\_ 3-\_\_ 4-\_\_ 5-\_\_ 6-\_ 7-\_\_ 8-\_ 9-\_ 10-\_ 11-\_ 12-\_

**Comments:** 

(N/A)

1 Percent Solid

**Lab:** Region 7 EPA Laboratory - Kansas City, Ks.

Method: EPA Region 7 RLAB Method 3142.9E

Basis: N/A

Samples: 1-\_\_\_ 2-\_\_ 3-\_\_ 4-\_\_ 5-\_\_ 6-\_\_ 7-\_\_

**Comments:** 

(N/A)

**ASR Number: 4602 RLAB Approved Sample Analysis Results** 09/25/2009 Project ID: BMA71700 **Project Desc:** Herculaneum Pb Smelter site - Removal Support/Recontamination soil sampling **Analysis/ Analyte** Units 3-\_ 1-\_\_\_ 2-\_\_\_ 1 Metals in Solids by ICP Lead mg/kg 158 194 170

86.4

95.9

96.9

1 Percent Solid Solids, percent

97.2

96.2

ASR Number: 4602

# **RLAB Approved Sample Analysis Results**

09/25/2009

Project ID: BMA71700

Project Desc: Herculaneum Pb Smelter site - Removal

oject best.	Herculaneum FD Sinciter Site - Kemovar
	Support/Recontamination soil sampling

Analysis/ Analyte	Units	5	6	7	8
1 Metals in Solids by ICP Lead	mg/kg	431	463	37.4	75.0
1 Percent Solid Solids, percent	%	96.5	86.2	94.1	93.6

ASR Number: 4602

# **RLAB Approved Sample Analysis Results**

09/25/2009

Project ID: BMA71700

**Project Desc:** Herculaneum Pb Smelter site - Removal Support/Recontamination soil sampling

Analysis/ Analyte
1 Metals in Solids by ICP Lead
1 Percent Solid Solids, percent

Units	9	10	11	12
mg/kg	118	152	87.6	46.7
%	89.2	89.0	85.4	83.5

# CHAIN OF CUSTODY RECORD ENVIRONMENTAL PROTECTION AGENCY REGION VII

BIOLICA MARCHA						SHEET 1 of 1										
	NTS OF SHIP				17,575			-wellor n	Sampling							
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ì	SAMPLE NUMBER	CURITAINS	801		BOTTLE	BOTTLE VOA SET (2 VIALS EA)  ERS PER SAMPLE NUMBER			water	sort	sediment	nst	other	REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)		
460	12 -1	X	MBERS C	F CONT.	AINERS PER	SAMPLE N	OWBER		┼	X	3	P			<u></u>	
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—	ICE CHEST(	S): OTHER						SAMPL		ONV	/EYE	D		(SHIPPING DOCUMENT N	IUMBER)	
PERSO	ONNEL CUSTO	DY RECO	RD							8	1>	了	10	\		
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ASR Number: 4	602 <b>Sampi</b>	e Number:	1	QC Cod	e: Matı	ix: Solid	Tag I	<b>D:</b> 4602-1				
_		erculaneum Pb Smelter site - Removal Support/Recontamination soil sampling										
Program: Site Name:	•			ITE - SIT	ΓE	Site ID:	A717	Site OU: 00				
Location Desc:	HER-	-RS- 21 E	xterna	ıl Samp	le Number:	RS-2	~1					
Expected Conc:	(or	Circle One:		·		Date		Time(24 hr)				
Latitude:			Samp	ole Colle	ection: Start:	7,28,0	9	13.00				
Longitude:					End:	_/_/_	_	_:_				
Laboratory Ana	alyses: Preservati	ve	Holding	Time	Analysis							
1 - 8 oz glass 0 -	4 Deg C 4 Deg C		180 0	Days Days	1 Metals in Solid 1 Percent Solid	is by ICP						
Sample Comme (N/A)	nts:	Q?	3	128	ppml	ead						
			N	(for	ppm ( 1544							

ASR Number: 460	2 Sample Num	ber: 2	QC Cod	ie: Matr	ix: Solid	Tag ID:	4602-2
Project ID: BM Project Desc: He City: He Program: Su	rculaneum Pb Sme rculaneum	lter site - R		• •			bling
Site Name: HE	RCULANEUM LEAD ALUATION/DISPOS		ITE - SI	TE	Site ID:	A717 <b>S</b>	ite OU: 00
Location Desc: _	HEK-RS-		al Samp	le Number:	Rs-aa	λ	
Expected Conc:	(or Circle (	One: Low	Medium	High)	Date		Time(24 hr)
Latitude: _ Longitude: _	<del></del>	Sam	ple Colle	ection: Start: End:	7290°	<u>1</u> \	<u>√</u> <u>;∞</u>
Laboratory Analy	/ses: Preservative	Holdin	g Time	Analysis			
1 - 8 oz glass 0 -	4 Deg C 4 Deg C	180 0	Days Days	1 Metals in Solid 1 Percent Solid	s by ICP		
Sample Comment (N/A)	s: (	Qλ	195	ppm Le 1544	ad		
		1	Viton	1544			

ASR Number: 46	502 <b>Sample Numbe</b>	r: 3 QC C	ode: Mati	rix: Solid 1	Tag ID: 4602-3				
_	rculaneum Pb Smelter site - Removal Support/Recontamination soil sampling rculaneum  State: Missouri perfund								
	VALUATION/DISPOSIT		SITE	Site ID: A	717 <b>Site OU:</b> 00				
Location Desc:	HER-KS	- 23		V( 22					
		<b>External Sam</b>	ple Number:	Nas	<u> </u>				
Expected Conc:	(or Circle One	e: Low Mediun		Date	Time(24 hr)				
Latitude:		Sample Col	llection: Start:	7 29,09	<u>06:0</u>				
Longitude:			End:	_/_/_	<b>_:</b> _				
Laboratory Ana	-			·····					
Container 1 - 8 oz glass	<b>Preservative</b> 4 Deg C	Holding Time 180 Days	Analysis  1 Metals in Solid	de by ICD					
0 -	4 Deg C	0 Days	1 Percent Solid	15 by ICF					
Sample Commer	its:	14500	14. Load	· · · · · · · · · · · · · · · · · · ·					
(N/A)	Ψ,	1 1912 pp	in can						
		1 145 pp Niton	10111						
		Niton	1744						

ASR Number: 46	02 Sample Number	r: 4 <b>QC</b> C	ode: Mat	rix: Solid Tag	<b>ID:</b> 4602-4				
<del>-</del>	erculaneum Pb Smelte erculaneum	Project Manager: Bruce Morrison ter site - Removal Support/Recontamination soil sampling State: Missouri							
Site Name: H	ERCULANEUM LEAD SM VALUATION/DISPOSITI		SITE	Site ID: A717	Site OU: 00				
Location Desc:	HER-RS-24	External San	nple Number:	RS-24					
Expected Conc:	(or Circle One	e: Low Mediu	•	Date	Time(24 hr)				
•	(or Circle One			2 00 0	(A)				
Latitude: _		Sample Co	llection: Start:	TOTO	<u> </u>				
Longitude: _			End:		_:_				
Laboratory Anal	· <del>-</del> ·								
Container	Preservative	Holding Time	•	de his ICD					
1 - 8 oz glass 0 -	4 Deg C 4 Deg C	180 Days 0 Days		•					
Sample Commen	ts:			<u> </u>					
(N/A)	- Q(	85	ppm lead 1544						
		Niton	1544						

Sample Collected By: AMP

ASR Number: 46	02 <b>Sample Numb</b>	er: 5 QC	Code:	Matrix: Solid	<b>Tag ID:</b> 4602-5
<del>-</del>	erculaneum Pb Smelt erculaneum		val Support/	nager: Bruce Mon Recontamination State: Missouri	
Site Name: H	ERCULANEUM LEAD S VALUATION/DISPOSI		- SITE	Site ID:	A717 <b>Site OU:</b> 00
Location Desc:	HER-	レース 5 External Sa	ımple Numl	per: RS-2	5
Expected Conc:	(or Circle O	ne: Low Medi	um High)	Date	Time(24 hr)
Latitude:		Sample (	Collection: S	Start: 150/0	9 09.00
Longitude:				End://_	:_
Laboratory Anal	yses: Preservative	Holding Tim	e Analys	is	
1 - 8 oz glass	4 Deg C	180 Da	ys 1 Metals	in Solids by ICP	
0 -	4 Deg C	0 Day	ys 1 Percen	t Solid	
Sample Commen	ts:	5.1	2-10 10	4. [ ]	
(N/A)	(	રા	) B	pr lead	
		$\mathcal{N}_{i}$	fon 154	pm lead 4	

ASR Number: 4602	Sample Number	r: 6	QC Co	de: Mati	rix: Solid	Tag ID: 4602-6			
City: Hero	rculaneum Pb Smelter site - Removal Support/Recontamination soil sampling state: Missouri								
	CULANEUM LEAD SN LUATION/DISPOSITI		ITE - SI	TE	Site ID:	A717 <b>Site OU:</b> 00			
Location Desc:	HER-RS	-26							
		Externa	al Samp	ole Number:	RS-2	6			
Expected Conc:	(or Circle One	: Low	Medium	High)	Date	Time(24 hr			
Latitude:		Samı	ple Coll	ection: Start:		<del>-</del>			
Longitude:				End:		- <b>_:</b> _			
Laboratory Analys	es:				· · · · · ·				
Container	Preservative	Holding	-	Analysis					
1 - 8 oz glass	4 Deg C	180	Days	1 Metals in Solid	ds by ICP				
0 -	4 Deg C	0	Days	1 Percent Solid					
Sample Comments:	f	2		210 000 1	1				
(N/A)	Ĺ	V 2	J	319 ppm 1	lad				
		Λ	liton	1544					

Sample Collected By: AMP

ASR Number:	4602	Sample	Number:	7	QC Cod	de: Mat	rix: Solid	Tag 1	<b>D:</b> 4602-7		
Project ID: BMA71700 Project Desc: Herculaneum Pb Smelter site - Remodifier Site - R						Project Manager: Bruce Morrison  demoval Support/Recontamination soil sampling  State: Missouri					
Site Name:	HERCU	LANEUM I	LEAD SME SPOSITIO		ITE - SI	TE	Site ID:	A717	Site OU: 00		
Location Desc:	· · ·	HER	[-K]-,		al Samp	le Number:	RS- 2	<u>.</u> 7			
Expected Conc		(or Ci	rcle One:	Low	Medium	High)	Date		Time(24 hr)		
Latitude:				Samı	ple Coli	ection: Start:	8/2/0	9	15.00		
Longitude:						End	: _/_/_		_:_		
Laboratory Ar Container 1 - 8 oz glass 0 -	• Pr 4 I	<b>eservative</b> Deg C Deg C		Holding 180 0		Analysis 1 Metals in Sol 1 Percent Solid	•				
Sample Commo (N/A)	ents:		<b>Q</b> 4	3	3 ppn	n lead 1544					
				Ni	ton	1544					

Sample Collected By: AMP

ASK Number: 4	602 Sample N	umber: 8	QC Coo	ie: matr	ix: Solid lag	<b>1D:</b> 4602-8				
-	Herculaneum Pb S Herculaneum	culaneum Pb Smelter site - Removal Support/Recontamination soil sampling Culaneum State: Missouri								
Site Name:	HERCULANEUM LE EVALUATION/DIS		SITE - SI	ΓE .	Site ID: A717	Site OU: 00				
Location Desc:	HER-	Extern	al Samp	le Number: _	RS-28					
Expected Conc:	•			· ·	<b>Date</b> 8,13,09	Time(24 hr) \ <u>3</u> : <u>∞</u>				
Latitude: Longitude:		Sam	iple Colle	ection: Start: End:	<u> </u>	<u>-:</u>				
Laboratory Ana	llyses: Preservative	Holdin	ig Time	Analysis						
1 - 8 oz glass 0 -	4 Deg C 4 Deg C	180 0	,-	1 Metals in Solid 1 Percent Solid	s by ICP					
Sample Comme (N/A)	nts:	Q4	72	ppm leas	(					

ASR Number: 4	602 Sample Numbe	r: 9 <b>QC C</b>	ode: Mat	rix: Solid Tag	<b>ID:</b> 4602-9					
_	Herculaneum Pb Smelte Herculaneum	rculaneum Pb Smelter site - Removal Support/Recontamination soil sampling state: Missouri								
Site Name:	HERCULANEUM LEAD SI EVALUATION/DISPOSIT		SITE	Site ID: A717	Site OU: 00					
Location Desc:	HER-R	5-29								
		External San	nple Number:	RS-29						
Expected Conc:	(or Circle On	e: Low Mediu	m High)	Date	Time(24 hr)					
Latitude:		Sample Co	ollection: Start:	8,14,09	<u>M</u> .					
Longitude:			End:		:					
Laboratory Ana	ilyses:	Holding Time	Analysis							
1 - 8 oz glass	4 Deg C	180 Days	-	ds by ICP						
0 -	4 Deg C	0 Days		23 by 1c.						
Sample Comme	nts:	`	77 ,		· · · · · · · · · · · · · · · · · · ·					
(N/A)	$Q \tilde{a}$	<b>ታ</b>	11 ppm l	ead						
		Neti	17 ppm l m 1544							

ASR Number: 46	02 Sample Nur	n <b>ber:</b> 10	QC Co	de: Matr	ix: Solid Ta	<b>g ID</b> : 4602-10
City: H	erculaneum Pb Sm erculaneum	elter site - Ro		• •		
	ERCULANEUM LEA! VALUATION/DISPO		ITE - SI	TE	Site ID: A7:	17 <b>Site OU:</b> 00
Location Desc:	HER-R		al Samp	le Number: _	RS-30	
<b>Expected Conc:</b>	(or Circle	One: Low	Medium	High)	Date	Time(24 hr)
Latitude: _ Longitude: _		Samı	ole Coile	ection: Start: End:	<u>8,12,09</u> _/_/_	=:− 03:∞
Laboratory Anal	yses: Preservative	Holding	Time	Analysis		
1 - 8 oz glass 0 -	4 Deg C 4 Deg C	180 0	Days Days	1 Metals in Solid 1 Percent Solid	s by ICP	
Sample Commen	ts:	01	115	ppm load		
(1977)		Q (	Niti	ppm lead m 1544	•	

ASR Number: 4602	Sample Number	: 11	QC Cod	ie: Mat	rix: Solid	Tag I	<b>D:</b> 4602-11
Project ID: BMA Project Desc: Hero City: Hero Program: Supe	culaneum Pb Smelter culaneum	site - Re					mpling
Site Name: HER	CULANEUM LEAD SMI LUATION/DISPOSITION		ITE - SI	TE	Site ID:	A717	Site OU: 00
Location Desc:	HER-18-31	Externa	al Samp	le Number:	RS-3	31	
Expected Conc:	(or Circle One:	Low	Medium	High)	Date		Time(24 hr)
Latitude: Longitude:		Samp	ole Coll	ection: Start: End:		_	_:− ( <u>o '</u> ∞
Laboratory Analyse Container 1 - 8 oz glass	es: Preservative 4 Deg C	Holding 180	<b>Time</b> Days	Analysis 1 Metals in Soli	ds by ICP		
0 -	4 Deg C	0	Days	1 Percent Solid			
Sample Comments: (N/A)	P.A.	Ν	le9	ppm Le 1544	ad		

ASR Number: 46	502 <b>Sample Numbe</b>	r: 12 <b>QC (</b>	Code: Mat	rix: Solid Tag	<b>ID:</b> 4602-12
_	lerculaneum Pb Smelte Ierculaneum		• •		
Site Name: H	IERCULANEUM LEAD SN VALUATION/DISPOSITI		SITE	Site ID: A717	Site OU: 00
Location Desc:	HER-RS-3	32		DC 22	
		External Sar	mple Number:	RS-32	
Expected Conc:	(or Circle One	: Low Mediu	m High)	Date	Time(24 hr)
Latitude:	<del></del>	Sample Co	ollection: Start:	8,7,09	( <u>0 :00</u>
Longitude:			End:		_:_
Laboratory Ana	lyses:	·			· · · · · · · · · · · · · · · · · · ·
Container	Preservative	Holding Time	<del>-</del>		
1 - 8 oz glass	4 Deg C	180 Days		ds by ICP	
0 -	4 Deg C	0 Days	1 Percent Solid		
Sample Commen	its:	22	0. 1	1	
(N/A)	49	22	ppm lead		
		Niton	ppm lead 1544		